

WHAT IS CLAIMED IS:

1. An inkjet recording head having an upright position corresponding to a position in use thereof, comprising:

a tank for containing ink, the tank being divided into plural chambers including at least one needle-receiving chamber and at least one main chamber whose capacity is larger than said needle-receiving chamber, said main chamber and said needle-receiving chamber being connected through a connecting hole therebetween,

wherein said needle-receiving chamber includes an opening for insertably receiving a needle for supplying ink into or discharging air from said needle-receiving chamber, and

wherein in the upright position, the connecting hole is situated above the opening.

2. An inkjet recording head according to Claim 1, wherein the opening is closed by a resilient joint through which the needle can pass.

3. An inkjet recording head according to Claim 2, wherein the needle is not insertable into said main chamber.

4. An inkjet recording head according to Claim 1,

wherein, when a large amount of ink is supplied to said needle-receiving chamber the ink flows from said needle-receiving chamber to said main chamber through the connecting hole.

5. An inkjet recording head according to Claim 1, wherein, when the amount of ink inside said main chamber decreases, the ink flows from said needle-receiving chamber to said main chamber through the connecting hole in order to replenish the main chamber with ink.

6. An inkjet recording head according to Claim 1, wherein the connecting hole has an opening diameter that allows formation of a meniscus of the ink.

7. An inkjet recording device comprising:  
the inkjet recording head of any one of Claims 1 to 6,  
and

supply means for supplying ink to said tank of said inkjet recording head, said supply means including a needle which is inserted into said needle-receiving chamber.

8. An inkjet recording device according to Claim 7, wherein said inkjet recording head comprises first and second needle-receiving chambers together with corresponding

first and second openings and first and second connecting holes, said inkjet recording device further comprising discharge means for discharging air from the tank through a first needle inserted into said first needle-receiving chamber, wherein said supply means supplies ink to said second needle-receiving chamber.

9. An inkjet recording device according to Claim 8, wherein said first needle-receiving chamber is disposed vertically above said second needle-receiving chamber in the upright position.

10. An inkjet recording device according to Claim 8, wherein said needles are essentially inserted at the same time in said first and second needle-receiving chambers.

11. An inkjet recording head according to Claim 1, wherein said inkjet recording head comprises first and second needle-receiving chambers together with corresponding first and second openings and first and second connecting holes.

12. An inkjet recording head according to Claim 11, wherein said first needle-receiving chamber is disposed vertically above said second needle-receiving chamber in the

upright position.

13. An inkjet recording head comprising:

a tank for containing ink, the tank being divided into plural chambers including at least one needle-receiving chamber and at least one main chamber whose capacity is larger than said needle-receiving chamber, said main chamber and said needle-receiving chamber being connected through a connecting hole therebetween,

wherein said needle-receiving chamber includes an opening for insertably receiving a needle for supplying ink into or discharging air from said needle-receiving chamber, and

wherein said connecting hole is sized small so as to allow formation of a meniscus of ink.

14. An inkjet recording head according to Claim 13, wherein the opening is closed by a resilient joint through which the needle can pass.

15. An inkjet recording head according to Claim 14, wherein the needle is not insertable into said main chamber.

16. An inkjet recording head according to Claim 13, wherein, when a large amount of ink is supplied to said needle-receiving chamber the ink flows from said needle-receiving chamber to said main chamber through the connecting hole.

17. An inkjet recording head according to Claim 13, wherein, when the amount of ink inside said main chamber decreases, the ink flows from said needle-receiving chamber to said main chamber through the connecting hole in order to replenish the main chamber with ink.

18. An inkjet recording head according to Claim 13, wherein said inkjet recording head has an upright position corresponding to a use position thereof, and wherein in the upright position, the connecting hole is situated above the opening.

19. An inkjet recording device comprising:  
the inkjet recording head of any one of Claims 13 to 18, and

supply means for supplying ink to said tank of said inkjet recording head, said supply means including a needle which is inserted into said needle-receiving chamber.

20. An inkjet recording device according to Claim 19, wherein said inkjet recording head comprises first and second needle-receiving chambers together with corresponding first and second openings and first and second connecting holes, said inkjet recording device further comprising discharge means for discharging air from the tank through a first needle inserted into said first needle-receiving chamber, wherein said supply means supplies ink to said second needle-receiving chamber.

21. An inkjet recording device according to Claim 20, wherein said first needle-receiving chamber is disposed vertically above said second needle-receiving chamber in the upright position.

22. An inkjet recording device according to Claim 20, wherein said needles are essentially inserted at the same time in said first and second needle-receiving chambers.

23. An inkjet recording head according to Claim 13, wherein said inkjet recording head comprises first and second needle-receiving chambers together with corresponding first

and second openings and first and second connecting holes.

24. An inkjet recording head according to Claim 23, wherein said first needle-receiving chamber is disposed vertically above said second needle-receiving chamber.